

# WHAT IS CLAIMED IS:

1. A grinder with easily installable/detachable grinding disc, comprising:

a main body, a driving unit being disposed in the main body, a rotary shaft being pivotally connected with bottom end of the driving unit and drivable by the driving unit, an annular toothed section being formed on a circumference of the rotary shaft;

a bracket having a circular body section formed with a central circular hole, the bracket being disposed at bottom end of the main body and rotatable to change angular position;

a support tray formed with a central circular hole, at least two rail channels being radially formed on the support tray, the support tray being disposed at the bottom end of the main body and concentric with the bracket; and

detent members the number of which is equal to the number of the rail channels, the detent members being respectively disposed in the rail channels and slidable along the rail channels, the detent members being connected with the bracket, at least one arched toothed section being formed at inner end of at least one detent member, whereby when turning a rotary disc, the detent members are synchronously driven to displace along the rail channels between an opened position and a closed

position;

the rotary shaft extending through the bracket and the support tray, the toothed section of the rotary shaft and the arched toothed section of the detent member being positioned at the same height; whereby when the detent members are positioned in the closed position, the arched toothed section is engaged with the annular toothed section, while when the detent members are positioned in the opened position, the arched toothed section releases the annular toothed section.

2. The grinder as claimed in claim 1, wherein oblique guide slots the number of which is equal to the number of the detent members are disposed on the body section of the bracket, each guide slot having an inner end and an outer end, the inner end being closer to the center of the body section than the outer end, guide posts the number of which is equal to the number of the detent members being respectively disposed on the detent members and inserted in the guide slots.
3. The grinder as claimed in claim 1, wherein an oblique guide slot is disposed on each detent member, guide posts the number of which is equal to the number of the detent members being disposed on the body section of the bracket at intervals and inserted in the guide slots.
4. The grinder as claimed in claim 1, wherein the inner end of each

detent member is formed with an arched toothed section, whereby when the detent members are closed, the arched toothed sections together form a circular configuration.

5. The grinder as claimed in claim 1, wherein the inner end of at least one detent member is free from the arched toothed section, whereby when the detent members are closed, the inner end of the detent member free from the toothed section can push the rotary shaft to displace, making the toothed section of the rotary shaft engaged with the detent member having the arched toothed section.
6. The grinder as claimed in claim 5, wherein the inner end of the detent member free from the arched toothed section is inward recessed.
7. The grinder as claimed in claim 1, wherein the main body has a circular loop section at bottom end, the bracket and the support tray being disposed in the loop section, said grinder further comprising a rotary disc rotatably disposed around the loop section, the rotary disc being connected with the bracket, whereby when turning the rotary disc, the bracket is driven to angularly displace.
8. The grinder as claimed in claim 7, wherein a predetermined number of hollow sections are formed on the circumference of the loop section at intervals, the bracket being connected with the rotary disc through the hollow sections.

9. The grinder as claimed in claim 8, wherein a predetermined number of leg supports are disposed on top face of the body section of the bracket at intervals, the leg supports respectively extending through the hollow sections to connect with the rotary disc.
10. The grinder as claimed in claim 7, wherein two figure marks are disposed on the circumference of the loop section, the rotary disc having at least one window in the position of the marks, whereby when the rotary disc is angularly displaced to different positions, the marks are exposed to outer side through the window.
11. The grinder as claimed in claim 7, wherein the rotary disc is composed of at least two arched bodies having predetermined arch length.
12. The grinder as claimed in claim 8, wherein the rotary shaft is eccentrically connected with the driving unit, whereby when the detent members are contracted, the circle formed by the arched toothed sections is tangential to the circle defined by the eccentric rotation of the rotary shaft.
13. The grinder as claimed in claim 1, wherein the support tray is fixedly disposed at bottom end of the main body and the bracket is positioned on upper side of the support tray.

14. The grinder as claimed in claim 11, wherein at least one locating section is disposed on the top face of the support tray, at least one dent being disposed on the body section of the bracket, the locating section being located in the dent.